AMERICA'S DATA CENTER CRISIS

The Hidden Environmental, Economic & Public Health Cost of the Digital Boom

WHAT IS A DATA CENTER?

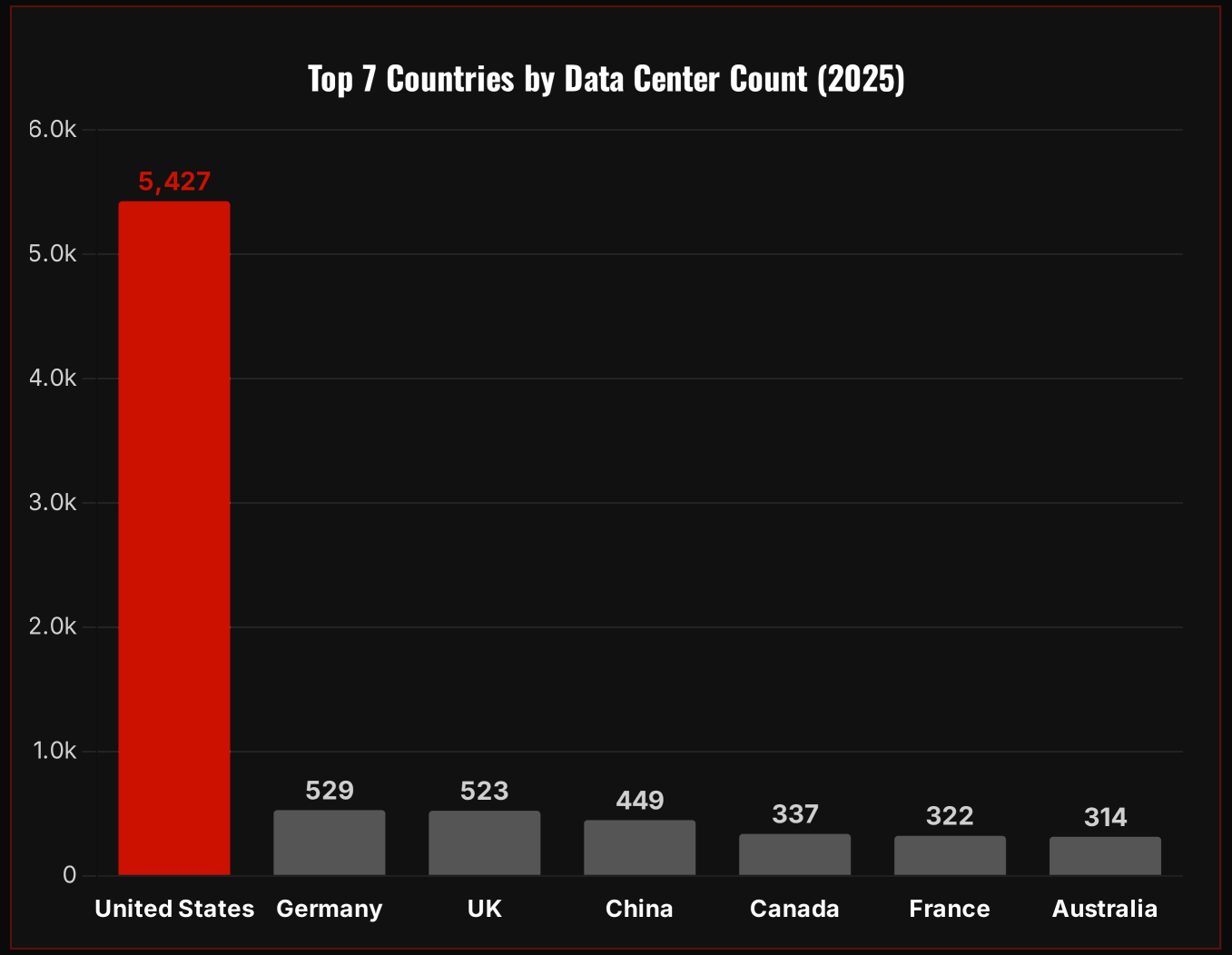
DATA CENTERS ARE THE HIDDEN INFRASTRUCTURE CONSUMING AMERICA'S RESOURCES

- Massive warehouses filled with servers, cooling systems, and power equipment — **running 24/7**
- They power everything: AI chatbots, cloud storage, streaming, surveillance, military systems
- A single hyperscale AI data center uses as much electricity as **100,000 homes**
- They require **millions of gallons of water** daily just to stay cool
- They generate enormous heat — **warming the land around them for miles**

U.S. DOMINANCE IN DATA CENTERS

THE U.S. HOSTS 45% OF ALL DATA CENTERS ON EARTH — BY FAR THE MOST OF ANY NATION

- **5,427 data centers** in the United States as of late 2025
- The U.S. accounts for **45% of all data centers globally** (12,000+ worldwide)
- Germany is #2 with only 529 — **the U.S. has 10x more**
- **642 hyperscale data centers** in the U.S. — 54% of the global total
- The U.S. market is worth **$171.9 billion** — 33% of the entire global market



THE TOP STATES

VIRGINIA, TEXAS & CALIFORNIA CONTROL AMERICA'S DIGITAL SPINE

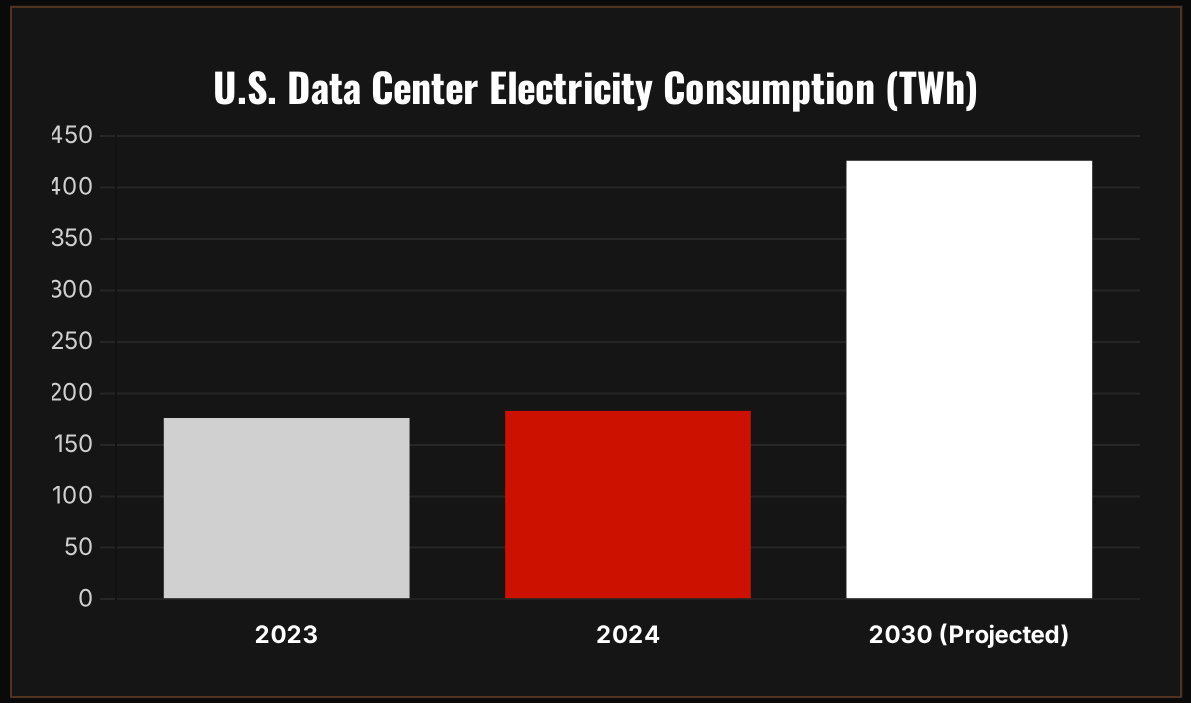
- **Illinois and Ohio rank 4th and 5th** — both located in the sensitive Great Lakes watershed.
- Northern Virginia's "Data Center Alley" in Ashburn handles **2/3 of the world's internet traffic**.
- Loudoun County, VA alone collects nearly **$900 million/year** in data center taxes — yet residents face rising power bills and infrastructure strain.

VIRGINIA	665 DATA CENTERS
TEXAS	413 DATA CENTERS
CALIFORNIA	321 DATA CENTERS

183 TERAWATT-HOURS

U.S. DATA CENTERS CONSUMED 183 TWH IN 2024 — ENOUGH TO POWER 16 MILLION HOMES

- **183 TWh** consumed in 2024 — **4.4% of ALL U.S. electricity** (IEA / Pew Research)
- In 2023, data centers used 176 TWh — equivalent to the entire nation of Ireland
- By 2028, consumption could hit **325–580 TWh** — up to 12% of U.S. electricity (LBNL)
- By 2030, projected to reach **426 TWh** — a 133% increase from 2024
- In Virginia alone, data centers consume **more than 1 in 4 kilowatt-hours** of the state's electricity



THE GRID IS BREAKING

DATA CENTERS ARE STRAINING THE U.S. POWER GRID AND DRIVING UP CONSUMER BILLS

- July 2024: 60 data centers nearly caused a **cascading failure** in Northern Virginia.
- Americans paid **10% more** for electricity in 2025 — over $60B.
- EPRI: data centers could use **up to 9% of U.S. electricity** by 2030.
- Power companies are **restarting retired coal and gas plants**.
- 23 retirement-scheduled plants are being **brought back online**.
- Some companies plan to use **on-site diesel generators**.

23

Fossil Fuel Plants Restarted

Retired oil, gas, and coal plants are returning online to meet AI data center demand.

THE NUCLEAR DESPERATION

TECH GIANTS ARE BUYING NUCLEAR PLANTS BECAUSE THE GRID CANNOT SUPPORT THEIR DEMAND

- **10+ Gigawatts** of new nuclear capacity contracted by Big Tech in 2024–2025 alone.
- **85–90 GW** of new nuclear needed by 2030 to meet projected data center demand — **less than 10%** will be available (Goldman Sachs).

MICROSOFT

$16 billion, 20-year deal to restart the **Three Mile Island** nuclear plant (site of America's worst nuclear disaster) by 2028.

GOOGLE

Contracted 500 MW of **Small Modular Reactors** from Kairos Power to fuel its AI operations.

AMAZON

$20 billion investment to build a massive AI campus directly next to the **Susquehanna nuclear plant**.

META

Issued a formal request for **1–4 gigawatts** of new nuclear generation to sustain its data centers.

THE WATER CRISIS

A SINGLE HYPERSCALE DATA CENTER CAN CONSUME UP TO 5 MILLION GALLONS OF WATER PER DAY

- Mid-sized data centers use up to **300,000 gallons per day**.
- Large hyperscale facilities use up to **5 million gallons per day** — like a city of 50,000 people.
- By 2028, AI-related U.S. data centers could require **32 billion gallons annually**.
- In 2023, U.S. data centers consumed **17 billion gallons** on-site.
- **Two-thirds** of new data centers since 2022 are in **water-stressed areas**.
- In rural Georgia, a Meta data center caused residents' **water taps to run dry**.

5M

Gallons Per Day

Daily water consumption of a single hyperscale data center — equivalent to a city of 50,000 people.

2/3

In Water-Stressed Areas

Share of all new data centers built since 2022 located in regions already facing severe water scarcity.

THE GREAT LAKES UNDER SIEGE

200+ DATA CENTERS PLANNED IN THE GREAT LAKES REGION

- The Great Lakes contain **20% of the world's surface freshwater**.
- **200+ data centers** are planned in the region.
- Illinois and Ohio rank **4th and 5th** nationally in data centers.
- Great Lakes water levels have **fallen 2–4 feet** since 2019.
- In 2023, power generation indirectly used **211 billion gallons**.

MICROSOFT (MOUNT PLEASANT, WI)

Uses **8.4M gallons/year** from Lake Michigan via Racine.

AWS (HOBART, IN)

Building a data center **2 miles from Lake Michigan**.

OPENAI / ORACLE (SALINE, MI)

Facility will use **1.4 GW** of electricity.

HEAT ISLANDS

DATA CENTERS RAISE LOCAL LAND TEMPERATURES UP TO 16°F — IMPACTING 343 MILLION PEOPLE GLOBALLY

- A 2026 study analyzed **6,000+ data centers** over 20 years using satellite temperature data.
- Average land surface increase near data centers: **+3.6°F** after operations begin.
- The "Data Heat Island Effect" is driven by **waste heat exhaust**, not urbanization.
- Rooftop cooling fans expel hot air **24/7**, continuously warming surroundings.
- Localized warming raises nearby cooling costs and **worsens heat stress**.

+16°F

Extreme Temperature Spike

In extreme cases, temperatures rose up to 16°F (9.1°C) within a ~6-mile radius of hyperscale sites.

343M

People Affected Worldwide

Estimated global population living within thermal impact zones of data center heat islands.

ALTERING LOCAL WEATHER

MASSIVE HEAT AND MOISTURE EXHAUST FROM DATA CENTERS IS ALTERING LOCAL ATMOSPHERIC CONDITIONS

- Data centers expel enormous quantities of **hot, humid air** into the local atmosphere continuously.
- This warm, moist air rises and interacts with existing weather patterns — increasing **local cloud formation, fog, and precipitation**.
- In the Great Lakes region, warmer air temperatures from data center heat contribute to **increased lake-effect snow intensity** — already worsened by reduced ice cover.
- Lake Erie's warmer water temperatures (partly driven by industrial heat discharge) are fueling **more severe lake-effect snowstorms** in Ohio, Pennsylvania, and New York.
- The concentration of industrial heat sources in a region fundamentally changes the **local thermal gradient** — the engine that drives weather.

UNINTENTIONAL WEATHER MODIFICATION

The massive scale of thermal and moisture exhaust from hyperscale data centers acts as a form of weather modification, occurring with **zero regulatory oversight**.

GEOENGINEERING & WEATHER MODIFICATION

DELIBERATE WEATHER MODIFICATION PROGRAMS OPERATE ALONGSIDE INDUSTRIAL HEAT GENERATED BY DATA CENTERS

- **Cloud seeding** is a documented, legal weather modification technique used in at least 10 U.S. states to increase precipitation.
- The U.S. government has a long history of weather modification research dating back to **Project Stormfury** (1962–1983).
- **Solar geoengineering** (Stratospheric Aerosol Injection) involves releasing reflective particles to reduce solar radiation — actively researched and debated in Congress.
- The combination of **industrial heat islands** from data centers + **atmospheric aerosol programs** creates compounding, poorly understood effects on regional weather.
- The Great Lakes region is particularly vulnerable: warmer lake temperatures + increased atmospheric moisture + aerosol seeding = **unpredictable and intensifying weather events**.

ZERO REGULATORY FRAMEWORK

There is currently **no regulatory oversight** connecting the massive atmospheric heat output of data centers to ongoing weather modification programs, leaving the compounding effects completely unmonitored.

THE ECONOMIC ILLUSION

DATA CENTERS PROMISE JOBS AND REVENUE — BUT DELIVER NEITHER IN THE LONG RUN

- A 2025 study found data centers have **virtually no impact on local jobs or incomes** after construction (State Affairs / Brookings).
- Most jobs are **construction-phase only** — temporary and not permanent community employment.
- At least **36 states** offer dedicated tax incentives for data centers.
- Only **11 of 36 states** publicly disclose which companies receive these subsidies.
- In 2025, **$156 billion worth** of data center projects were blocked or delayed by local opposition.
- Opposition to data centers rose **125%** in Q2 2025 alone.

5,300 vs 150

Job Destruction

The AOL campus in VA once had 5,300 employees — replaced by data centers employing only 100–150 people on the same land.

$1B+

Lost Tax Revenue

Georgia, Virginia, and Texas each lose over $1 billion per year in tax revenue due to data center subsidies.

$156B

Blocked Projects

The value of data center projects blocked or delayed by local opposition in 2025.

BACKROOM DEALS & THE NDA SCANDAL

TECH COMPANIES ARE FORCING ELECTED OFFICIALS TO SIGN SECRET NDAS — HIDING PLANS FROM THE PUBLIC

- NDAs are **written by corporate lawyers** — not government attorneys — and cover the company's identity, water use, power demands, and tax deals.
- Some NDAs require that **the existence of the NDA itself be kept secret**, exempting the entire negotiation from public records laws.
- Amazon's NDA with Pima County, AZ gave Amazon **advance notice of all public records requests** — allowing the company to block them.
- In Pine Island, MN, city officials knew about a Google data center for **2 years before residents**. Even the local state senator was told only the day before the announcement.
- At least **10 states** are now moving to ban or restrict NDAs in economic development deals.

VIRGINIA STUDY — UNIV. OF MARY WASHINGTON

25/31

Local Governments Signed NDAs

25 of 31 Virginia local governments involved in data center development had signed NDAs — and one county couldn't even produce a copy of its own NDA.

"The democratic process where my voice is supposed to matter has been hijacked by big tech."

— AUBREE DERKSEN, PINE ISLAND, MN RESIDENT, TESTIFYING BEFORE STATE LEGISLATURE

THE SURVEILLANCE STATE: WHAT IS REALLY BEING STORED

DATA CENTERS ARE THE INFRASTRUCTURE OF MASS SURVEILLANCE — STORING EVERYTHING ABOUT EVERY AMERICAN

- Data brokers aggregate data from **smartphones, connected cars, store cameras, and smart devices** — then sell it on the open market.
- The U.S. government **buys this data commercially**, bypassing the warrant requirements that apply to direct government collection.
- DHS received **$165 billion in funding in 2025** and is deploying AI to analyze 911 data, build geospatial heat maps, and run predictive policing systems.
- DHS served **hundreds of subpoenas** on Google, Reddit, Discord, Meta, and Facebook to obtain identifying data on users who posted anti-ICE content online.
- AI running in these data centers can **predict and manipulate behavior** — what you buy, feel, think, and do.

LOCATION & MOVEMENT

GPS, cell tower pings, Wi-Fi, Bluetooth — building a continuous map of everywhere you go.

BIOMETRICS

Facial recognition from store cameras, heart rate from wearables, iris scans, gait analysis.

COMMUNICATIONS

Emails, texts, social media posts, voice data, and metadata — who you talk to and when.

FINANCIAL & BEHAVIORAL

Every purchase, search query, app usage, and browsing habit — used to build a predictive profile.

$165B DHS surveillance budget in 2025 — funding AI-driven mass data collection and analysis at unprecedented scale.

FORD'S BIOMETRIC PATENT: YOUR CAR IS WATCHING YOU

FORD'S PATENTED IN-CABIN BIOMETRIC SYSTEM TURNS YOUR VEHICLE INTO A SURVEILLANCE NODE

- Patent filed **February 9, 2024**, published **August 14, 2025** — already in the pipeline.
- The system integrates multiple sensors to capture **facial, fingerprint, and iris biometric data** from everyone inside the vehicle.
- A separate patent captures **driver speech and vehicle operation data**, transmitting it to remote cloud servers for analysis.
- Stellantis, Mitsubishi, and other automakers are filing **similar biometric patents** — this is an industry-wide shift.
- The data generated feeds directly into **corporate cloud servers** — housed in the very data centers being built across America.

FACIAL RECOGNITION

Cameras scan and identify occupants' faces in real time — **comparing against external databases** to flag potential "security threats."

LIP-READING CAMERA

When microphones fail due to noise, **interior cameras read occupants' lips** to capture speech — even in convertibles or off-road environments.

IRIS & FINGERPRINT SCANNING

Multi-modal biometric authentication captures **iris patterns and fingerprints** for vehicle access and driver identity verification.

SPEECH TELEMETRY

Conversations inside the vehicle are **associated with driving behavior** and transmitted to corporate cloud infrastructure for "categorization and analysis."

WHY AMERICA HAS 10X MORE DATA CENTERS

AMERICA'S DOMINANCE IS NOT ACCIDENTAL — IT IS THE RESULT OF DELIBERATE POLICY, TAX SUBSIDIES, AND GEOPOLITICAL STRATEGY

HISTORICAL INFRASTRUCTURE

Northern Virginia was built over major internet trunk lines and **undersea cable landing points in the 1980s–90s**, making it the natural hub for global internet traffic.

AGGRESSIVE TAX SUBSIDIES

36+ states offer dedicated tax incentives for data centers. Georgia, Virginia, and Texas each forfeit over $1 billion per year in tax revenue to attract these facilities.

CHEAP LAND & ENERGY

Historically abundant land and relatively cheap electricity — especially in the South and Midwest — made the U.S. far more attractive than **land-scarce, energy-expensive Europe**.

REGULATORY ADVANTAGE

The U.S. has **far lighter data privacy regulations** than the EU (GDPR). Companies can collect, store, and sell American data with minimal legal restriction.

AI ARMS RACE POLICY

The U.S. government actively directs tech companies to **build AI infrastructure domestically** to maintain strategic dominance over China — treating data centers as national security assets.

CORPORATE MONOPOLY

Amazon, Microsoft, Google, and Meta control **44% of global data center capacity** and concentrate their infrastructure in the U.S. to maintain control over the global digital economy.

REAL ALTERNATIVES EXIST — WE DON'T NEED THIS

VIABLE ALTERNATIVES EXIST — THE HYPERSCALE MODEL IS A BUSINESS CHOICE, NOT A TECHNICAL NECESSITY

EDGE COMPUTING

Process data **locally on devices or small community nodes**, eliminating the need to transmit everything to a central hub. Edge AI can reduce power consumption by **100–1,000x per task**.

DECENTRALIZED AI NETWORKS

Use the **idle computing power of millions of consumer devices** via peer-to-peer networks to train and run AI models — no single massive facility required.

ALGORITHMIC EFFICIENCY

Smaller, optimized AI models (Small Language Models) achieve **similar results with a fraction of the energy**. China's DeepSeek demonstrated this is possible at a global scale.

HYPERSCALE VS. ALTERNATIVES

HYPERSCALE MODEL

183 TWh

Annual U.S. data center electricity use — 4.4% of the entire national grid

EDGE AI ALTERNATIVE

1,000x

Less energy per task when processing is done locally rather than in a central data center

HYPERSCALE WATER USE

5M gal

Daily water consumption of a single hyperscale facility

CLOSED-LOOP COOLING

~0

Water evaporation with modern liquid immersion cooling — already deployed in some facilities

STAGGERING INVESTMENT

BIG TECH IS SPENDING $700+ BILLION ON DATA CENTERS IN 2026 ALONE — WITH NO END IN SIGHT

- Amazon, Microsoft, Google, and Meta collectively plan to spend **$700+ billion** on data center infrastructure in 2026.
- The **Stargate Project** (OpenAI/Oracle/SoftBank): $500 billion committed over 4 years — the largest AI infrastructure project in history.
- Annual U.S. data center investment will rise **116%** from $53.2B (2024) to $118.4B (2027).
- This spending is driven by a **competitive arms race** — not demonstrated consumer need.
- The generative AI market is projected to grow to $1 trillion by 2032 — but the infrastructure being built may **far exceed actual demand**.

$6.7T

Global Capex (2025-2030)

McKinsey projects $6.7 trillion in cumulative global capital expenditure for data centers.

$500B

The Stargate Project

A single joint venture committing half a trillion dollars to U.S. AI infrastructure.

COMMUNITIES FIGHTING BACK

ACROSS AMERICA, COMMUNITIES ARE SAYING NO TO DATA CENTERS

- In 2025, **$156 billion** in data center projects were blocked or delayed by local opposition, moratoriums, and litigation.
- **35+ states** have passed tax breaks for data centers — but communities are increasingly demanding those breaks be reversed.
- The NAACP Center for Environmental and Climate Justice is actively tracking data center impacts on **environmental justice communities**.
- The resistance is growing as residents realize the true cost to their water, power grid, and local environment.

FIFE LAKE, MICHIGAN

A small town of 471 residents successfully stopped a planned data center through organized community opposition.

WOODVILLE TOWNSHIP, OHIO

Hundreds of residents showed up to a public meeting to oppose a rural data center project threatening their resources.

> *"The concerns are legitimate — over rising power rates, water use, environmental issues amid mushrooming growth."*
>
> — HARVARD RESEARCHERS

A BETTER PATH

THERE IS A BETTER PATH — DISTRIBUTED, EFFICIENT, AND COMMUNITY-CONTROLLED DIGITAL INFRASTRUCTURE

- **Impose Moratoriums**

  Halt new hyperscale data center construction in water-stressed regions and the sensitive Great Lakes watershed.

- **End State Tax Subsidies**

  Stop giving away billions in taxpayer money with no accountability; 36 states currently offer these subsidies.

- **Enforce the Great Lakes Compact**

  Close the regulatory loopholes that currently allow unlimited water consumption within the basin.

- **Require Full Disclosure**

  Mandate complete transparency on water and energy consumption before any data center permit is approved.

- **Mandate Waste Heat Recovery**

  Require data centers to pipe waste heat into district heating networks, as is already done in Sweden and Denmark.

- **Fund Independent Research**

  Investigate the atmospheric and weather effects of concentrated industrial heat output from these facilities.

CONCLUSION

THE DATA CENTER BOOM IS ENRICHING A FEW WHILE COSTING EVERYONE ELSE

- **5,427 data centers** in the U.S. — 45% of the global total — consuming **183 TWh of electricity** annually.
- Enough to power **16 million homes** — while Americans pay 10% more for electricity.
- **200+ more** planned for the Great Lakes region — threatening the world's largest freshwater reserve.
- Local temperatures rising **up to 16°F** around data center campuses — impacting 343 million people globally.
- **Coal plants being restarted**, nuclear disasters being reopened, diesel generators being deployed — all to power AI.
- Communities losing water, farmland, and local control — while receiving **minimal jobs and temporary tax revenue**.

The time to act is now — before the Great Lakes are drained and the grid collapses under the weight of unchecked corporate ambition.

SOURCES & REFERENCES

DATA AND RESEARCH CITATIONS

- **Cloudscene (2025):** Number of Data Centers by Country
- **Lawrence Berkeley National Laboratory (Dec 2024):** 2024 U.S. Data Center Energy Usage Report
- **The Guardian (Dec 2025):** Water Levels Across the Great Lakes Are Falling
- **CNN / University of Cambridge (Mar 2026):** Data Centers Are Creating Heat Islands
- **World Resources Institute (Feb 2026):** 7 Ways Data Centers Affect U.S. Communities
- **OpenAI (Jan 2025):** Announcing the Stargate Project
- **Circle of Blue (Mar 2026):** Great Lakes States Face a Data Center Governance Gap
- **IEA / Pew Research (2025):** U.S. Data Center Energy Use
- **Belfer Center, Harvard (Feb 2026):** AI, Data Centers, and the U.S. Electric Grid
- **WTTW / Alliance for the Great Lakes (Aug 2025):** Mega Data Centers Could Drain Great Lakes
- **Fortune (Apr 2026):** Big Tech's $700B AI Spending Spree
- **Good Jobs First (Nov 2025):** Cloudy Data, Costly Deals
- **Introl (Jan 2026):** Nuclear Power for AI — Inside the Data Center Energy Deals